

AMENDMENTS TO THE CLAIMS

We claim:

1. (original) A process for preparing essentially uncrosslinked hyperbranched, water-soluble or water-dispersible polyesters by reacting
 - at least one dicarboxylic acid or a dicarboxylic acid derivative (A) with
 - at least one polyether polyol (B) having n OH groups, where n is ≥ 3 ,at from 40°C to 160°C in the presence of an esterification catalyst, where the components (A) and (B) are used in such amounts that the molar ratio of OH groups to COOH groups is from 2 : 1 to 1 : 2.
2. (original) A process as claimed in claim 1, wherein n is 3, 4, 5 or 6.
3. (original) A process as claimed in claim 1, wherein n is 3 or 4.
4. (currently amended) A process as claimed in claim 1 ~~any of claims 1 to 3~~, wherein the molar ratio of OH groups to COOH groups is from 1.8 : 1 to 1 : 1.8.
5. (currently amended) A process as claimed in claim 1 ~~any of claims 1 to 3~~, wherein the molar ratio of OH groups to COOH groups is from 1.5 : 1 to 1 : 1.5.
6. (currently amended) A process as claimed in claim 1 ~~any of claims 1 to 5~~, wherein the reaction is carried out under reduced pressure.
7. (original) A process as claimed in claim 6, wherein the pressure is less than 500 mbar.
8. (currently amended) A process as claimed in claim 1 ~~any of claims 1 to 7~~, wherein the polyether polyol having at least 3 OH groups is obtainable by ethoxylation and/or propoxylation of a molecule having at least 3 acidic H atoms.
9. (original) A process as claimed in claim 8, wherein an ethoxylation is carried out.
10. (currently amended) A process as claimed in claim 1 ~~any of claims 1 to 9~~, wherein a diol is additionally used as chain extender (V) in an amount of not more than 40 mol% based on the amount of polyether polyols used.
11. (original) A process as claimed in claim 10, wherein the amount of the chain extender (V) is not more than 20 mol%.

12. (currently amended) A process as claimed in claim 1 ~~any of claims 1 to 11~~, wherein a monofunctional carboxylic acid or a monofunctional alcohol is additionally used as chain stopper (S) in an amount of not more than 10 mol% based on the amount of polyether polyols (B) or dicarboxylic acids (A) used.
13. (original) A process as claimed in claim 12, wherein the amount of the chain stopper (S) is not more than 5 mol%.
14. (currently amended) A process as claimed in claim 1 ~~any of claims 1 to 13~~, wherein the hyperbranched, water-soluble or water-dispersible polyester obtained is reacted in an additional process step with a suitable functionalization reagent (F) which can react with the OH and/or COOH end groups of the polyester.
15. (original) A process as claimed in claim 14, wherein the functionalization reagent (F) comprises one or more compounds selected from the group consisting of aliphatic and aromatic monocarboxylic acids and their derivatives, aliphatic and aromatic unsaturated monocarboxylic acids and their derivatives, aliphatic and aromatic monoalcohols, aliphatic and aromatic unsaturated monoalcohols, aliphatic and aromatic monoamines, aliphatic and aromatic unsaturated monoamines, aromatic and aliphatic monoisocyanates, aliphatic and aromatic unsaturated monoisocyanates, compounds containing carbodiimide groups and compounds containing epoxide groups.
16. (currently amended) A process as claimed in claim 1 ~~any of claims 1 to 15~~, wherein the esterification catalyst is an enzyme and the polymerization is carried out at from 40°C to 120°C in the presence of a solvent.
17. (original) A process as claimed in claim 16, wherein the polymerization is carried out at from 50°C to 80°C.
18. (currently amended) A process as claimed in claim 16 ~~or 17~~, wherein the enzyme is a lipase or an esterase.
19. (original) A process as claimed in claim 18, wherein the enzyme is Candida antarctica lipase B.
20. (currently amended) A process as claimed in claim 16 ~~any of claims 16 to 19~~, wherein the enzyme is used in immobilized form.
21. (currently amended) A process as claimed in claim 1 ~~any of claims 1 to 15~~, wherein the esterification catalyst is an acidic inorganic, organometallic or organic catalyst.

22. (original) A process as claimed in claim 21, wherein the reaction is carried out at from 60°C to 160°C.
23. (original) A process as claimed in claim 22, wherein the reaction is carried out at from 80°C to 150°C.
24. (currently amended) A process as claimed in claim 21 ~~any of claims 21 to 23~~, wherein the reaction is carried out at a pressure of not more than 100 mbar.
25. (currently amended) A water-soluble or water-dispersible, hyperbranched polyester obtainable by a process as claimed in claim 1 ~~any of claims 1 to 24~~.
26. (currently amended) A water-soluble or water-dispersible, hyperbranched polyester which has a hydroxyl number of 50 – 1000 mg KOH/g, an acid number of 0 – 200 mg KOH/g, a number average molecular weight M_n of 300 – 15 000 g/mol and a polydispersity M_w / M_n of 1.1 - 50 and is obtainable by a process as claimed in claim 1 ~~any of claims 1 to 24~~.
27. (original) A water-soluble or water-dispersible, hyperbranched polyester as claimed in claim 26 which has a hydroxyl number of 100 – 800 mg KOH/g, an acid number of 1 – 100 mg KOH/g, a number average molecular weight M_n of 500 – 8000 g/mol and a polydispersity M_w / M_n of 1.2 – 20.
28. (currently amended) The use of a water-soluble or water-dispersible hyperbranched polyester as claimed in claim 25 ~~any of claims 25 to 27~~ for preparing polyaddition or polycondensation polymers.
29. (currently amended) The use of a water-soluble or water-dispersible hyperbranched polyester as claimed in claim 25 ~~any of claims 25 to 27~~ for producing printing inks, adhesives, coatings, paints and varnishes.